

Application No. 10/630,555

Amendment dated September 17, 2007

After Final Office Action of December 28, 2006

Advisory Action of August 6, 2007

Docket No.: NY-LUD 5298-US5-DIV

REMARKS

Applicants wish to express their appreciation to Examiners Hissong and Landsman for the courtesies extended to Dr. Pär Olsson and the undersigned during the telephone interview of September 14, 2007. Claims 34 and 35, presented herein, were discussed, and the Examiners' indicated that this amendment would be entered, the claims were allowable, and if a petition to withdraw the Terminal Disclaimer filed previously in this case were filed, they would approve it.

Claim 34 is supported by the specification. For example, see page 4, lines 17-18:

"In particular, monoclonal antibodies to the extracellular domain are of potential value in therapy."

Page 4, lines 6-15, which precede this passage, discuss extracellular domains of the ALKs and antibodies generally.

Figure 4 of the specification depicts the structure of the ALKs. These include a signal sequence, a cysteine rich region, followed by a transmembrane region. Anything that precedes a transmembrane region is *per se* part of the extracellular domain.

Figures 3 and 5, when taken together, describe the extracellular domain of ALK-1, which is the protein recited in the claims, completely.

Figure 5 sets forth the cysteine rich region of *inter alia*, ALK-1. The cysteine rich region of ALK-1 begins with CTCESP ... and ends with CDSHLC. This sequence can be found in figure 3a - 3b. Specifically, if one moves to the second block of sequences 16 amino acids from the left, one finds CTCESP. At figure 3b "CDSHLC" will be found at amino acids 2-6 in the title line of the first block of sequences.

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The start and end of the cysteine rich domain are preceded and followed by additional sequences, as per figure 4. Figure 3 also shows a horizontal line above the transmembrane domain of the proteins. Hence, the skilled artisan could easily determine the full scope of the extracellular domain.

Perusal of these regions, i.e., the extracellular domains of ActR-II, ActR-IIB, T β R-II, and ALK-1, 2, 3, 4, and 5, will show there is low homology therebetween. Page 18, lines 15-16, for example, states that the extracellular domains share 15-47% identity. Indeed, comparison of the extracellular domain of ALK-1, as is recited in the claims, and ALK-5, which is the protein recited in the claims of U.S. Patent No. 6,982,319, applied previously, will show homology of less than 30%.

As such, it is believed that claim 34 is not only free of the prior art but also of any obviousness type double patenting rejection.

With respect to claim 35, this is an independent version of claim 32, previously presented, and found free of any obviousness type double patenting issues. Indeed, as page 24, lines 2-3, for example, state:

"This region is divergent in sequences between the various serine threonine kinase receptors."

The specification goes on to describe the intracellular juxtamembrane regions of the various ALKs, and a perusal of the sequences will show a lack of homology therebetween.

In view of the foregoing, allowance of this application is believed proper and is urged.

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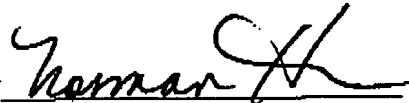
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Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-0624, under Order No. NY-LUD 5298-US5-DIV (10309270) from which the undersigned is authorized to draw.

Dated: September 17, 2007

Respectfully submitted,

By



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